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The Impact of KaniMani Storytelling Mobile Application (KM-SMA) on Tamil Students' Speaking Skills and Motivation in Learning Tamil

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Abstract. The research aims to delve into the KaniMani Storytelling Mobile Application (KM-SMA)'s impact on Tamil students' speaking skills and motivation to learn Tamil through the use of mobile applications. Thirty-six Tamil students aged between 7 and 8 years old were chosen based on their performance on a Classroom Assessment (CA) and randomly assigned to one of two groups (one experimental and one control) of 18 participants each. All the students were from three national primary schools, in the Pasir Gudang district, Johor, Malaysia. Two instruments were employed to examine the speaking skills of the participants before and after the experiment: speaking tests as pre-post tests and a motivation questionnaire. In addition, paired t-test was employed to examine the data. We found that following treatment, KM-SMA participants performed better than the control group regarding motivation and speaking skills. The results showed the importance of language instruction through mobile applications; it is a crucial element and we advised that it be considered in the Tamil language curriculum.

Keywords: digital storytelling; education; speaking skills; motivation; Tamil language

1. Introduction

Technology evolves rapidly in the digital age, as do technological tools in teaching and learning. Technology may be employed as a tool to facilitate learning and for students to acquire various skills (Tambi & Awang, 2020). Consequently, it is vital for teachers to employ technology in the classroom to cultivate speaking skills during the lesson. There are many types of techniques applied for speaking, such as discussion, brainstorming, role play, storytelling, and discussions (Khaerana &

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Nurdin, 2018). Storytelling methods encourage creative thinking and keep students' attention during class (Csikar & Stefaniak, 2018). Storytelling is among the digital media's versatile functions and it helps the students' creativity with the integration of student-centred learning (Dalim et al., 2019). Traditional oral or paper-based storytelling has been supplanted by digital storytelling as a result of rapid technological advancements (Alharbi & Newbury, 2020). In reality, utilising digital media to create a tale enables students to convey the story to others and help them organise their ideas and thoughts.

A new style of storytelling has arisen due to rising new technology in education (Adara, 2020). New educational resources are being made available to students, for instance, mobile applications (Alharbi & Newbury, 2020). According to Gangaiamaran & Pasupathi (2017), mobile technology allows students to access information at any time and from any location. According to Choo et al. (2020), short, unique, and multimedia stories with a theme and moral values in mobile applications can help students develop their content knowledge. Mobile application-based stories, in particular, provide opportunities for students' learning processes, increasing their learning confidence and motivation (Tanrikulu, 2020).

The mobile application can be viewed as a pedagogical tool for teachers to utilise to engage and focus students' interest in various areas of language. As mentioned by Rachels & Rockinson-Szapkiw (2018), mobile applications provide opportunities for students' learning processes, boosting their learning confidence and motivation. Challob (2021) stated that increasing students' motivation to study is essential for teaching and acquiring new information since motivation affects how teachers and students engage with the course contents. Employing a mobile application has many extra advantages, for instance, improving language and computer skills, expressing opinions, learning to ask questions, and improving speaking skills (Melian-Melian & Martin-Gutierrez, 2018). Given this fact, technological solutions, particularly mobile applications, must be implemented for students to help them become more tech-savvy language learners.

The "Theory of Multimedia Learning" (Mayer, 2001) is employed in this study. Vygotsky's Sociocultural Theory related to active learning integrate with Self-Determination Theory by L. Deci & M. Ryan (1985) motivates students to become involved in storytelling activities. This Theoretical Framework provides the basic understanding of how the enrichment of the process of research.

As a result, it demonstrates that speaking skills improve learning in all educational settings (Azlan et al., 2019). As a result, this study looks into the effect of the KaniMani Storytelling Mobile Application (KM-SMA) on the improvement of Tamil students' speaking skills and motivation to learn Tamil.

1.1. Statement of the problem

For several decades, researchers have investigated how technology, particularly mobile applications, influences learning and achievement in the classroom. According to Rao (2019), teachers are still looking for different teaching strategies

to implement in their classrooms that will assist their students in improving their speaking skills. According to James et al. (2019), many teachers believe mobile applications are time-consuming and resource-intensive tools. Wan (2019) also stated that a mobile application's capacity to interest students in learning is a key factor in determining how well it is integrated into education. Others, however, believe that meaningful integration of technology, such as a mobile application, may be beneficial in assisting students in constructing their own meaning from thinking. In order to accomplish better student success and improve students' their attitudes toward schooling and language generally, their point of view encourages research into the use of different instructional media in the classroom (Neamah et al., 2017). In reality, instructors need practical instructions to help them integrate technology into their lesson plans.

Many academicians recognised the importance of developing a comprehensive approach that included speaking (Khaerana & Nurdin, 2018). For all languages, the debate over the position of technology in education has not yet been settled. It has been reported that English is valued more than Tamil among Malaysian primary school students (Nalliannan et al., 2021).

The goal of the present research is to determine how a mobile storytelling application affects Tamil students' speaking skills and motivation to learn the language. Despite the fact that many mobile applications have been used for more than two decades, there has been little research on this topic, particularly as it was utilised in educational contexts to learn Tamil. Nevertheless, the impacts of incorporating a mobile storytelling application on promoting speaking skills in Tamil learners in Malaysia have yet to be investigated.

1.2 Significance of the study

By offering a fresh viewpoint on incorporating mobile applications into Tamil instruction, this research can help instructors and students. The study's findings may also be useful to curriculum designers and Tamil teachers. This research can help teachers and curriculum developers further comprehend the function of KaniMani mobile application software instruction. Notwithstanding considerable initiatives by Malaysia's educational system as a whole, technology breakthroughs that aid Tamil educational progressions have advanced more slowly. The mobile applications' use in primary schools has not been thoroughly investigated. It is important to note that encouraging Tamil teachers to incorporate mobile applications into their teaching may lead to active learning situations in the classroom. Furthermore, no previous research has looked into the potential of mobile applications in improving speaking skills in national primary schools, particularly in Tamil as an elective subject.

1.3. Objectives of the study

The objectives of this study is to:

1. Examine the KM-SMA's impact on the improvement of Tamil students' speaking skills in national primary schools.
2. Investigate the impact of KM-SMA on the improvement of Tamil students' motivation in national primary schools.

1.4. Research questions and hypotheses

This study answers the following research questions:

Q1. Does implementation of the KM-SMA have any impact before and after on the speaking skills of Tamil students in control and experimental groups?

Q2. Does implementation of the KM-SMA have any impact before and after on the motivation of Tamil students in control and experimental groups?

The following null hypotheses have been developed in relation to the aforementioned research questions:

$H_0$1. KM-SMA does not have any impact on the before and after speaking skills of Tamil students in control and experimental groups.

$H_0$2. KM-SMA does not have any impact on the before and after the motivation of Tamil students in control and experimental groups.

2. Review of literature

The teaching and learning quality have increased as a result of technological innovation. As a result, mobile applications emerged as effective storytelling tools. According to Hidayati (2019), using a well-chosen narrative to illustrate and describe what teachers want students to learn, storytelling is a valuable teaching strategy. Additionally, this form of teaching encourages students to reflect carefully on the ideas, characters, feelings, and experiences of the narrative. It is believed that mobile applications might enhance speaking skills. Additionally, teachers' guidance and encouragement are very important to achieve the academic development as well as their social and emotional growth among students. In a study by Gillespie (2022), the researcher found that students loved utilising tablets and digital software, which was both a good motivator for students and a sign of their learning and accomplishment.

Another study, conducted by Alharbi & Newbury (2020), demonstrated the successful integration of a mobile application in primary schools compared to formal books. Finally, in an experiment, Sadik (2008) investigated mobile applications as an integrated approach. The findings of the study indicated that Egyptian instructors' use of mobile application projects helped students better understand certain course materials. Additionally, the results demonstrated that teachers were open to using mobile application material to deliver more efficient training.

A small number of studies show that mobile application instruction improves student motivation. The motivation of students to learn Spanish was examined by Rachels & Rockinson-Szapkiw (2018) in a study conducted in USA. A motivational questionnaire and interviews were employed to collect their data. Generally, it was found that student motivation had increased. Further research by Eutsler et al. (2020) examined the impact of mobile applications on academic performance in learning the English language and on motivation. For each variable, they discovered favourable outcomes. Mobile applications were found to be a successful strategy for fostering motivation and speaking abilities in classrooms; nevertheless, the impacts of incorporating Tamil mobile applications on fostering these abilities in Malaysia have not yet been examined.

3. Methodology

3.1. Participants

Participants in the research were randomly selected from a group of students from national primary schools in the state of Johor. Purposive sampling was used in the selection of the schools. The participating students were 8-year olf Tamil students. The decision to choose lower primary schools stemmed from the fact that this is the age at which most Malaysian national school Tamil students begin learning the language.

Following the Classroom Assessment (CA), thirty-six students were randomly dispersed to either the experimental or control groups. Consequently, the sample size was 18 students each in the experimental and control groups. The experimental group was taught using KM-SMA, whereas the control group was taught using traditional methods.

3.2. Instruments and materials

The following tools were utilised for the aim of this research:

1. CA was used to select homogeneous samples. The exam lasted for 60 minutes, and the results were provided by their Tamil language teacher, who suggested a useful technique for evaluating learners and determining their level of general Tamil competence.
2. Speaking Test: The speaking test consists of ten vocabulary questions. Students looked at the picture and spoke for one minute to assess their fluency. After receiving instruction in the Tamil language, learners underwent a comparable exam as a follow-up to gauge their growth in speaking abilities.
3. Motivation Questionnaire: A motivation questionnaire was administered to the learners in the control and experimental groups to assess their learning experiences as well as perspectives on KM-SMA instruction and traditional teaching accordingly. The 30 multiple-choice questions had to be finished in 60 minutes by the learners.
4. KM-SMA: This mobile application was created in 2019 by Murasu System Sdn Bhd in Malaysia. It has a new series of KaniMani stories in Tamil that are being used as a mobile storytelling application in this study. There are six stories and six games for the students to enjoy. For the purposes of this study, five stories were used. All downloads were handled through the Apple AppStore or Google Play Store. All these were presented in the home screen. The activities appeared disabled when the app is opened for the first time. Each activity is linked to a story. Once the first story is read, the first activity is enabled. The same occurs for the remaining stories. All the six activities were enabled once all the six stories were read. During the lesson, the students were given tablets. With permission from the teachers, some students brought their own tablets. Each section of this mobile application contains new terms linked to the stories as well as enjoyable activities after completing one story. In the classroom, these stories were played digitally. The family-oriented stories in this mobile application are originally related to Malaysian culture and are based on the Malaysian curriculum used for this study. It is intended for learners

who need more practice comprehending straightforward stories. Besides, this mobile application has multiple advantages, including high-interest topics that engage and motivate students to learn Tamil. It also includes natural-sounding recordings that reflect everyday situations as well as simple and enjoyable activities.

3.3. Procedure

This research was conducted as quasi-experiment using a quantitative and qualitative approach. The researcher also provided pre-test and post-test were given to the participants orally before and after each story was told through the mobile application. The instruments' confirmability was first tested to ensure their reliability. Then, interrater reliability was calculated using Cohen's Kappa in identifying the speaking tests' reliability. To begin the experiment, 50 Tamil students studying Tamil as an elective subject from three different schools in Pasir Gudang, Johor, were given the CA to guarantee homogeneity in respect of language proficiency. Participants had half an hour to complete 30 items on the placement test. Thirty six participants at the pre-intermediate level were chosen based on the scores of the placement test. Subsequently, they were randomly divided into two groups of 18 students in the experimental and control groups each.

A speaking pre-test was conducted to gauge the participants' past speaking proficiency before the treatment was administered to the experimental group. A speaking exam was provided to the experimental and control groups. Additionally, students received assurances regarding the fluency and vocabulary of their answers and were told that the test scores would not have an impact on their course marks. All the participants in the two groups who were speaking at a similar level made up the research sample. Additionally, the motivation survey was distributed to the learners for completion in the same session. The motivation survey was translated into Malay since it was the participants' first language at school, and they had pre-intermediate language skills. With the assistance of the teachers, students completed the Malay version of the questionnaire. Furthermore, two specialists translated the motivation's Malay version into English to ensure the validity of the translation.

A post-test using a speaking test and a motivation survey was performed for both groups in the final session to assess the changes in their speaking skills and motivation level. A speaking evaluation of fifteen questions was employed to assess the students' vocabulary and fluency in order to gauge their speaking skills. To gain a thorough understanding of KM-SMA instruction in learning, a set of questions were given to each student. The students were required to speak about the picture in KM-SMA for about one minute. They had to use the vocabulary that they had learned before wisely. An audio containing a list of words was also played to the students. Students were required to answer correctly and were scored on a range from 0 to 30. This procedure took five to six minutes for each learner. In assessing the student's level of motivation once the five-week programme was finished, a motivation survey was also administered. Finally, after gathering the data, it was decided if integrating KM-SMA training would

improve the participating students' speaking and motivation levels. The findings of the pre-and post-tests were considered. We provide a detailed explanation of the KM-SMA instruction for the experimental group and the traditional style of instruction for the control group.

3.3.1. KM-SMA instruction (the experimental group)

The experimental group had five sessions, each averaging an hour, twice weekly. In the first session, one of the researchers explained the goal of the investigation and the notion of KM-SMA. Additionally, the instructional materials were presented. Subsequently, the materials comprised the "KaniMani" mobile application, which has six stories and six games, was presented. The learners in this group were instructed on the stories from the mobile application from the second to the ninth session. The Tamil instructor began with a warm-up phase before introducing and reviewing part of the new story's vocabulary. The students then listened to one story from the "KaniMani" mobile application for one time. When the students requested it, the story was replayed based on the student's needs. The beautiful pictures of the stories were shown on a big screen via PowerPoint, while the stories were played by the "KaniMani" mobile application. The students then engaged in some story-based speaking activities. Finally, the learners were asked to record what they had learnt after hearing the stories. The learners were divided into two groups: A and B, for the duration of the second through ninth sessions. Next, in an attempt to sharpen their public speaking skill, they were asked to retell the story. In a few of the sessions, there was a role play centred around the subject of storytelling. Per session, they abided by the identical procedures as described below.

3.3.2. Conventional (non-digital) type of instruction (the control group)

Even though similar content was presented to both groups, the experimental group received instruction using a separate method from the control group. Relying on a standard approach to introduce the stories, the control group had to develop their speaking skill. Likewise, in the experimental group, all participants took their lessons twice a week for an hour over the course of five sessions. In the experimental group, listening to stories to improve speaking skills was taught using the KM-SMA. Apart from that, in the control group, the material was taught in the traditional manner by a Tamil teacher rather than using any Tamil mobile application.

All the students in this group were previously informed of the study's goal. The narrative was printed out and given to the kids at the beginning of each class. Following each lesson, a narrative was handed to the learners to read at home. Conventional training was given to this group. In addition, throughout each lesson, the teacher read the narrative aloud to the class while using motions, body movements, and even rising and falling in voice. The students in the control group had to give an overview of the stories that their instructor had selected for them, depending on teacher instruction throughout the sessions. In this class, there was no mobile storytelling application at all.

When comparing two data sets from the same group, the paired sample t-test was employed to check if there were any substantial disparities. In addition, the independent sample t-test was employed to check if there were any substantial disparities between two data sets from different groups.

4. Results

A number of assumptions must be made before using covariance analysis. Furthermore, the speaking and motivation questionnaire results were examined for normalcy using the Kolmogorov-Smirnov test. Information about these variables' normal distribution is displayed in Table 1.

Table 1: Normality test

Group		Statistic	df	Sig.
Control	Total pre-speaking test	0.919	18	0.123
	Total post-speaking test	0.946	18	0.368
	Pre-overall motivation	0.953	18	0.469
	Post-overall motivation	0.928	18	0.182
Experimental	Total pre-speaking test	0.967	18	0.733
	Total post-speaking test	0.951	18	0.445
	Pre-overall motivation	0.933	18	0.218
	Post-overall motivation	0.899	18	0.056

The significance level for the research's dependent variables is higher than the alpha level (0.05), and the scores for the study's dependent variables are normally distributed. The first assumption for using covariance analysis was achieved. The speaking and motivation scores for the control and experimental groups, both before and after treatment administration, are shown in the table below, along with descriptive statistics.

Table 2. Descriptive statistics (pre-and post-tests for both groups)

Group		N	Mean	SD
Control	Pre-speaking	18	27.44	4.449
	Post- speaking	18	26.72	3.064
	Pre-motivation	18	1.847	0.212
	Post- motivation	18	1.871	0.210
Experimental	Pre-speaking	18	25.50	4.062
	Post- speaking	18	85.06	9.496
	Pre-motivation	18	1.795	0.179
	Post- motivation	18	2.802	0.125

The table shows differences between experimental and control groups on pre-tests and post-tests of speaking, as well as pre-tests and post-tests of motivation questionnaires. The experimental and control groups' respective means and

standard deviations on the speaking pre-test were (M=25.50, SD=4.062), as well as (M=27.44, SD=4.449), accordingly. As per the table, the control group's mean on the speaking post-test was (M=26.72) with a standard deviation of (SD=3.064). Additionally, the speaking post-test for the experimental group had a mean (M=85.06) and a standard deviation (SD=9.496). On the speaking pre-and post-tests, the mean of the experimental group improved higher than that of the control group.

Before the intervention, the control group's mean motivation score was (M=1.847) with a standard deviation of (SD=0.212). Additionally, on the motivation pre-test, the experimental group's mean and standard deviation were (M=1.795, SD=0.179). According to the table, the control group's post-test motivation mean was (M=1.871) with a standard deviation of (SD=0.210). Furthermore, the experimental group's mean on the motivation post-test was (M=2.802) with a standard deviation of (SD=0.125). As a result, it is possible to conclude that the experimental group's mean post-test motivation increased more than the control group. Table 3 shows paired samples *t*-test to compare the pre-test and post-test in the control group on the complete speaking skills results.

Table 3. *T*-test using paired samples to compare speaking skills pre- and post-test results

Group	Test	N	Mean	SD	*t*	df	Sig. *P*
Control	Pre-speaking	18	27.44	4.449	0.890	17	0.386
	Post- speaking	18	26.72	3.064			
Experi-mental	Pre-speaking	18	25.50	4.062	30.904	17	0.000
	Post-speaking	18	85.06	9.496			

Table 3 depicts no substantial disparities in the control group's speaking skills scores between pre-and post-tests, with t (17) = 0.890, $p > 0.05$. Post-test mean scores for speaking skills dropped to M = 26.72 (SD = 3.064) from M = 27.44 (SD = 4.449) on the pre-test. Table 3 also shows a significant difference in speaking skills scores in the experimental group between pre-and post-tests, having t (17) = -30.904, $p < 0.05$. As a result, $H_0$1 is rejected. The findings revealed that the experimental group's speaking skills improved the most because the participants' mean score in the post-test (M = 85.06, SD = 9.496) was greater than the mean score in the pre-test (M = 25.50, SD = 4.062).

Table 4. *T*-test on paired samples to compare motivation pre- and post-test results

Group	Test	N	Mean	SD	*t*	df	Sig. *P*
Control	Pre-motivation	18	1.85	0.212	1.279	17	0.218
	Post-motivation	18	1.87	0.208			
Experi-mental	Pre-motivation	18	1.80	0.179	19.011	17	0.000
	Post-motivation	18	2.80	0.125			

Table 4 shows no significant differences in motivation scores between pre-and post-test in the control group, t (17) = 1.279, $p > 0.05$. The results showed that there was only minor progress in the post-test in the control group, having the mean motivation score in the post-test being M = 1.87 (SD = 0.208) compared to M = 1.85 (SD = 0.212) in the pre-test. Table 4 also shows a significant difference in motivation scores in the experimental group between pre-and post-test, having t (17) = 19.011, $p < 0.05$. Motivation improved the most in the experimental group, with a post-test mean score (M = 2.80, SD = 0.125) higher than the pre-test mean (M = 1.80, SD = 0.179). $H_0$2 is accepted because the findings failed to reject it. As can be seen, the study's null hypotheses were both rejected. It can be concluded that KM-SMA was effective in improving speaking skills and motivation among national primary school Tamil students. This can be seen in the experimental group who took part in the 10-week intervention programme.

5. Discussion

There are numerous advantages to using a mobile application in the foreign language classroom. Sung et al. (2020) investigated the use of mobile applications in learning the Malay language. According to their findings, in order to assist learners in creating their information and ideas, they can communicate and exchange them more efficiently. Mobile applications have inspired teachers to employ many more strategies and resources than before. Furthermore, the current study's findings are consistent with Etcuban & Pantinople (2018), who used a mobile application to teach students to establish mathematical skills. The authors claimed that worksheets and other teaching tools, for instance, digital storytelling, help learners acquire the mathematical concepts and abilities they are required to know while also putting those concepts and skills in an intriguing and engaging context.

The findings of this study also confirm that mobile application instruction had a positive impact on Tamil students' motivation. A few studies have found that mobile application instruction has an effect on student motivation. The findings are consistent with Akla (2022), highlighting the teacher interviews and stating that the student's technical and presentation skills had improved, as well as their engagement and learning motivation.

The findings are also consistent with Alshenqeeti (2018), who investigated students' attitudes toward mobile applications and motivation in Saudi Arabia. A motivational questionnaire and interviews were used to collect their data. The findings revealed an overall improvement in student motivation. Furthermore, the findings of Dias & Victor (2017) revealed that students enjoyed using mobile applications. The authors discovered that it is a strong incentive for learners and a barometer of their performance, behaviour, and learning. Numerous research has demonstrated that mobile applications may affect students' academic performance at every grade level as well as their interest, attitude, and motivation.

Despite the fact that various research was done on the effects of mobile applications on the literacy abilities of primary school youngsters, neither took into account mobile application training in strengthening speaking skills in

Tamil, particularly for national primary school students. Therefore, this study's findings may present a new understanding for those involved in foreign language teaching, for instance, material developers, curriculum designers, schools, language teachers, and mobile application developer

When creating curricula for learners, curriculum designers consider the importance of a number of learning standards and instructional objectives. The significance of education that gives students enough exposure to digital instruction was underlined by this research and its conclusions. The employment of digital software is essential in this respect, and may be included in the national Tamil language curriculum for primary schools in Malaysia.

Schools, particularly primary schools, must emphasise digital learning more in the classroom and take into account the crucial role that technology, and mobile applications especially, represent in today's society. Schools must place a strong education on the learner-centred educational philosophy, which calls for the adoption of methodologies and practices that are suitable given the interests and requirements of the learners at every educational level. Additionally, by delivering hands-on tutorials and employing a variety of activities, Tamil language instructors may help learners increase their fluency in virtual classrooms. According to the integrated curricular approach, KM-SMA will improve teachers' career growth by helping them relate the Tamil topic they teach to other subjects, creating a wealth of relevant context for learning. Additionally, KM-SMA could inspire teachers to compile their own narratives. Every youngster will have more learning chances as a result of the incorporation of languages in digital technologies. This study contributes to the field of educational psychology, particularly in the field of motivation, that focuses on engaging students in the process of learning Tamil among students. There is no previous study in Malaysia that related to the implementation of the teaching module of Storytelling Mobile Application for national primary school Indian students.

6. Conclusions

In accomplishing two study goals and responding to relevant research questions, data were acquired and assessed. The initially recommended study topic explored how Tamil learners in national elementary schools may improve their speaking skills using KM-SMA. The results showed that KM-SMA instruction improved their speaking abilities. As a result, the study's first null hypothesis was denied.

The second study topic examined how the KM-SMA affected Tamil learners' motivation in national primary schools. The results showed that KM-SMA education significantly affected students' motivation. The outcomes demonstrated that most students had favourable attitudes toward KM-SMA instruction. As previously stated in the discussion part, these results corroborate those of prior research in which most participants thought that KM-SMA teaching had a positive impact on their ability to learn Tamil. Thus, the second null hypothesis of the investigation was likewise disproved.

The results showed that there was a statistically substantial disparity in the post-test scores of the control and experimental groups, that is, after the experimental group received the intervention and the control group received traditional forms of learning. However, the experimental group exceeded the control group in the post-test. This would suggest that the treatment KM-SMA instruction is the primary cause of the variance between the two groups. Additionally, the experimental group's answers to the motivation questionnaire supported the argument that teaching KM-SMA is preferable to the conventional classroom setting.

The present research only looked at how KM-SMA instruction improved speaking skills knowledge. However, measuring literacy and speaking skills knowledge gained through KM-SMA instruction remains an area of interest for future study. In addition, this research recommends more investigation into the possible impacts of KM-SMA education on other language skills, for instance, writing and reading.

Given that the present research was limited to Tamil students from national primary schools, the same study could be conducted on national type Tamil and Chinese students to determine the possible impact of KM-SMA instruction on their motivation and speaking skills. The study's sample size can be expanded in further research. The pre-test, treatment sessions, and post-tests were only administered to 36 participants. Additional research in other learning contexts with advanced-level students is required since the existing study was carried out in an academic environment with eight-year-old students.

The purpose of the present research was to examine the efficacy of KM-SMA based on the literature review, as well as the connection between KM-SMA and motivation and speaking skills. Interested researchers could conduct additional research on the effectiveness of mobile applications on Tamil students' writing achievements and vocabulary learning. The existing research demonstrates that additional study on this issue with various competence levels, age groups, and a wider context for the Tamil language is required.

7. References

Adara, R. A. (2020). The effects of integrating digital storytelling to students' motivation. *Edukasi: Jurnal Pendidikan Dan Pengajaran*, *7*(2), 131–145. https://doi.org/10.19109/ejpp.v7i2.6023

Akla, A. (2022). Storytelling method to improve vocabulary for non-native Arabic speaker children. *Arabiyatuna Jurnal Bahasa Arab*, *6*(1), 171–192. https://doi.org/10.29240/jba.v6i1.4069

Alharbi, S., & Newbury, P. (2020). Designing a mobile learning application by integrating universal design for learning principles and digital storytelling: Pilot study. *Proceedings of the European Conference on E-Learning (ECEL)*, 547–555. https://doi.org/10.34190/EEL.20.126

Alshenqeeti, H. (2018). Motivation and foreign language learning: Exploring the rise of motivation strategies in the EFL classroom. *International Journal of Applied Linguistics and English Literature*, *7*(7), 1. https://doi.org/10.7575/aiac.ijalel.v.7n.7p.1

Azlan, N. A. B., Zakaria, S. B., & Yunus, M. M. (2019). Integrative task-based learning: Developing speaking skill and increase motivation via instagram. *International Journal of Academic Research in Business and Social Sciences*, *9*(1), 620–636. https://doi.org/10.6007/ijarbss/v9-i1/5463

Challob, A. I. (2021). The effect of flipped learning on EFL students' writing performance, autonomy, and motivation. *Education and Information Technologies*, 3743–3769. https://doi.org/10.1007/s10639-021-10434-1

Choo, Y. B., Abdullah, T., & Nawi, A. M. (2020). Digital storytelling vs. oral storytelling: An analysis of the art of telling stories now and then. *Universal Journal of Educational Research*, *8*(5A), 46–50. https://doi.org/10.13189/ujer.2020.081907

Csikar, E., & Stefaniak, J. E. (2018). The utility of storytelling strategies in the biology classroom. *Contemporary Educational Technology*, *9*(1), 42–60. https://doi.org/10.30935/cedtech/6210

Dalim, S. F., Azliza, N. Z. M., Ibrahim, N., Zulkipli, Z. A., & Yusof, M. M. M. (2019). Digital storytelling for 21st century learning: A study on pre-service teachers' perception. *Asian Journal of University Education*, *15*(3), 226–234. https://doi.org/10.24191/ajue.v15i3.7801

Dias, L., & Victor, A. (2017). Teaching and learning with mobile devices in the 21st century digital world: Benefits and challenges. *European Journal of Multidisciplinary Studies*, *5*(1), 339. https://doi.org/10.26417/ejms.v5i1.p339-344

Etcuban, J. O., & Pantinople, L. D. (2018). The effects of mobile application in teaching high school Mathematics. *International Electronic Journal of Mathematics Education*, *13*(3), 249–259. https://doi.org/10.12973/iejme/3906

Eutsler, L., Mitchell, C., Stamm, B., & Kogut, A. (2020). The influence of mobile technologies on preschool and elementary children's literacy achievement: a systematic review spanning 2007–2019. *Educational Technology Research and Development*, *68*(4), 1739–1768. https://doi.org/10.1007/s11423-020-09786-1

Gangaiamaran, R., & Pasupathi, M. (2017). Review on use of mobile apps for language learning. *International Journal of Applied Engineering Research*, *12*(21), 11242–11251.

Gillespie, B. (2022). Using digital storytelling and game based learning to increase student engagement and connect theory with practice. *Wildfried Laurier University*, 1–18. https://doi.org/https://doi.org/10.20343/teachlearninqu

Gutierrez, M. P. C., Cristobal, I. H. T., Alonzo, A. T. B., & Bustamante, R. R. M. (2019). Digital storytelling vs traditional storytelling: Teaching English language to ANHS students. *2019 IEEE Integrated STEM Education Conference (ISEC)*, 38–41. https://doi.org/10.1109/ISECon.2019.8882047

Hidayati, Y. (2019). The effect of storytelling towards students' speaking skill at X grade students of Ma Nurul Haraman Boarding School. *Journal of Languages and Language Teaching*, *7*(2), 132–143.

James, P. R. A. P., Yong, K. L., & Yunus, M. M. (2019). Hear me out! Digital storytelling to enhance speaking skills. *International Journal of Academic Research in Business and Social Sciences*, *9*(2), 190–202. https://doi.org/10.6007/ijarbss/v9-i2/5533

Khaerana, A. S. A., & Nurdin, N. N. (2018). The Effectiveness of story telling and story reading methods in teaching speaking. *ETERNAL (English, Teaching, Learning, and Research Journal)*, *4*(2), 181. https://doi.org/10.24252/eternal.v42.2018.a4

L.Deci, E., & M.Ryan, R. (1985). *Intrinsic Motivation and Self-Determination in Human Behaviour* (Vol. 148). Springer Science+Business Media New York.

Mayer, R. E. (2021). Evidence-based principles for how to design effective instructional videos. *Journal of Applied Research in Memory and Cognition, 10*(2), 229–240. https://doi.org/10.1016/j.jarmac.2021.03.007

Melian-Melian, J. A., & Martin-Gutierrez, J. (2018). Design and usability of learning objects

applied in graphic expression. *Computer Applications in Engineering Education*, *26*(5), 1134–1149. https://doi.org/10.1002/cae.21946

Mustaffa, M. Z. M. Q. F. Y. (2020). UTM Arab students' usage for English vocabulary mobile applications. *Social Science, Education and Humanities Research*, *487*(1), 29–34. http://creativecommons.org/licenses/by-nc/4.0/

Nalliannan, P., Perumal, T., & Pillai, S. (2021). Language use among Malaysian Tamil youth. *SCIENDO*, *19*(1), 69–93. https://doi.org/10.2478/sm-2021-0014

Neamah, M. A., Hussain, A., Puteh, N., & Ghazali, O. (2017). Modeling a mobile Arabic learning application for children in Malaysia. *Journal of Engineering and Applied Sciences*, *12*(Special Issue 3), 6569–6575. https://doi.org/10.3923/jeasci.2017.6569.6575

Rachels, J. R., & Rockinson-Szapkiw, A. J. (2018). The effects of a mobile gamification app on elementary students' Spanish achievement and self-efficacy. *Computer Assisted Language Learning*, *31*(1–2), 72–89. https://doi.org/10.1080/09588221.2017.1382536

Rao, P. S. (2019). The importance of speaking skills in English classrooms. *Alford Council of International English & Literature Journal(ACIELJ)*, *2*(2), 6–18. https://www.researchgate.net/publication/334283040_THE_IMPORTANCE_OF_SPEAKING_SKILLS_IN_ENGLISH_CLASSROOMS

Sadik, A. (2008). Digital storytelling: A meaningful technology-integrated approach for engaged student learning. *Educational Technology Research and Development, 56*(4), 487-506. https://doi.org/10.1007/s11423-008-9091-8

Sung, C. M., Ahmad, M., Mansor, N. R., Rashid, R. A., & Abdullah, N. A. C. (2020). The effectiveness of mobile application in learning Malay foreign language. *Journal of Physics: Conference Series*, *1529*(4), 1–7. https://doi.org/10.1088/1742-6596/1529/4/042064

Tambi, L., & Awang, M. M. (2020). Use of animation to improve motivation and achievement levels among primary school students. *Psychreg Journal of Psychology*, *4*(2), 131–139.

Tanrikulu, F. (2020). The effect of L2 listening texts adapted to the digital story on the listening lesson. *Turkish Online Journal of Distance Education*, *21*(1), 1–18. https://doi.org/10.17718/TOJDE.674382

Wan, L. (2019). The application research of mobile learning app "English Fluency" in college English oral teaching. *5th International Conference on Education Technology, Management and Humanities Science (ETMHS 2019)*, *5*, 37–41. https://doi.org/10.25236/etmhs.2019.008